

FreeNAS - Bug #36118

Add support to boot from dataset with a colon in its name

06/28/2018 07:33 AM - Bonnie Follweiler

Status: Done	
Priority: No priority	
Assignee: Alexander Motin	
Category: OS	
Target version: 11.2-BETA1	
Seen in: 11.2-BETA1	Needs Merging: No
Severity: High	Needs Automation: No
Reason for Closing:	Support Suite Ticket: n/a
Reason for Blocked:	Hardware Configuration:
Needs QA: No	ChangeLog Required: No
Needs Doc: No	
Description	
Rolled my FreeNAS 11.2-INTERNAL9 back to a previous non-internal release and now I am getting a "can't load 'kernel' and it's stuck there (screenshot Provided)	

Associated revisions

Revision 89a802c2 - 06/28/2018 02:56 PM - Alexander Motin

Split path in currdev variable by the last colon, not the second.

If boot environment name includes colon in its name (like time), then this code will interpret it as separator and won't be able to find a dataset by the incomplete name to load the kernel from. This change is based on assumption that path is almost never really used there, and even if used, there are rarely colons in it.

Ticket: #36118

Revision dfedfe49 - 07/03/2018 10:14 AM - William Grzybowski

feat(migrations): rename BEs with ":" in the name

Ticket: #36118

Revision 9011136d - 07/03/2018 10:29 AM - William Grzybowski

feat(migrations): rename BEs with ":" in the name

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Revision 57f3e087 - 07/03/2018 11:00 AM - William Grzybowski

feat(migration): use beadm list -H

Ticket: #36118

Revision d4f2548f - 07/03/2018 11:06 AM - William Grzybowski

feat(migrations): rename BEs with ":" in the name

Ticket: #36118

Revision ddcacefc - 07/03/2018 11:06 AM - William Grzybowski

feat(migration): use beadm list -H

Ticket: #36118

Revision bebed582 - 07/05/2018 10:26 AM - William Grzybowski

fix(migration): skip migration on fresh install

Ticket: #36118

Revision ce5d23c1 - 07/05/2018 12:33 PM - William Grzybowski

fix(migration): skip migration on fresh install

Ticket: #36118

History

#1 - 06/28/2018 07:37 AM - Bonnie Follweiler

- Assignee changed from William Grzybowski to Alexander Motin

#3 - 06/28/2018 08:02 AM - Bonnie Follweiler

- File Screen Shot 2018-06-28 at 10.53.25 AM.png added

- File Screen Shot 2018-06-28 at 11.00.30 AM.png added

- Subject changed from Rolled my FreeNAS 11.2-INTERNAL9 back to a previous non-internal release and now I am getting a "can't load 'kernel' and it's stuck there to Rolled my FreeNAS 11.2-INTERNAL9 back to a previous version and now I am getting a "can't load 'kernel' and it's stuck there

From Internal9 to Initial-Install is working

I will now try booting into Internal9 and then rolling back to the Wizard BE

#4 - 06/28/2018 08:20 AM - Bonnie Follweiler

- File Screen Shot 2018-06-28 at 11.14.41 AM.png added

- File kernal again.jpg added

Cloned Internal9 and renamed it Internal:9 and it wont load (screenshots provided)

#5 - 06/28/2018 09:00 AM - Bonnie Follweiler

- Subject changed from *Rolled my FreeNAS 11.2-INTERNAL9 back to a previous version and now I am getting a "can't load 'kernel' and it's stuck there to Rolled my FreeNAS 11.2-INTERNAL9 back to a previous version that has : in its name and now I am getting a "can't load 'kernel' and it's stuck there*

#6 - 06/28/2018 12:30 PM - Alexander Motin

- Subject changed from *Rolled my FreeNAS 11.2-INTERNAL9 back to a previous version that has : in its name and now I am getting a "can't load 'kernel' and it's stuck there to bsdloader fails to boot from dataset with ":" in its name*
- Status changed from *Unscreened to Screened*

The problem is that ":" is used as a field separator in currdev and bootdev loader variables, and the code just takes the first ":" when parses them, after which it just can't find the dataset with the truncated name.

#7 - 06/28/2018 12:41 PM - Dru Lavigne

- Target version changed from *Backlog to 11.2-BETA1*

#9 - 06/28/2018 03:08 PM - Alexander Motin

- Status changed from *Screened to In Progress*
- Target version changed from *11.2-BETA1 to Backlog*

This PR fixes the issue for newly installed boot environments: <https://github.com/freenas/os/pull/125> .

Unfortunately there is still a problem with old BEs, if they are activated via WebUI or beadm. Since zfsloader is loaded from the active BE, if old one is activated and it has a colon in its name -- it won't be able to boot. I have no better idea then cycle through all of them during install/update and update /boot/zfsloader on each.

#10 - 06/28/2018 03:10 PM - Alexander Motin

Sorry, I've changed it to Backlog by mistake. It should still probably be BETA1, just needs more work.

#11 - 06/28/2018 03:24 PM - Dru Lavigne

- Target version changed from *Backlog to 11.2-BETA1*
- Severity changed from *New to High*

#12 - 06/29/2018 08:41 AM - Dru Lavigne

- Status changed from *In Progress to Ready for Testing*
- Needs Doc changed from *Yes to No*
- Needs Merging changed from *Yes to No*

#13 - 06/29/2018 09:01 AM - Alexander Motin

We could actually merge it down to 11.1-U6. It is irrelevant to GRUB-based versions directly, but may help with booting old BEs after updating to 11.2 and GRUB removal.

#14 - 06/29/2018 09:31 AM - Dru Lavigne

- Subject changed from *bsdloader fails to boot from dataset with ":" in its name to Add support to boot from dataset with a colon in its name*

#15 - 07/02/2018 06:54 AM - Bonnie Follweiler

Waiting for Internal14, failed in Internal13

#16 - 07/02/2018 02:49 PM - Bonnie Follweiler

- File Screen Shot 2018-07-02 at 5.15.40 PM.png added
- File Screen Shot 2018-07-02 at 5.21.53 PM.png added
- File Screen Shot 2018-07-02 at 5.32.03 PM.png added
- File Screen Shot 2018-07-02 at 5.33.24 PM.png added
- File can_t load Kernal.jpg added
- Status changed from Ready for Testing to Failed Testing

Failed Test in FreeNAS 11.2-Beta1
Screenshots provided

#18 - 07/02/2018 03:08 PM - Bonnie Follweiler

- Status changed from Failed Testing to Ready for Testing

Going forward, any boot environment with a colon will work. past boot environments couldn't be fixed. If a person wants to use a boot environment with a : in it they will have to clone the BE and make sure the name of the clone does not have colons in it or they wont be able to use the BE with a colon in it.

I will re-test tomorrow morning and update

#19 - 07/03/2018 08:19 AM - Bonnie Follweiler

Please note:

I tried renaming a BE with a colon to remove the colon's - it resulted in the same failure.

My next step was to "clean installed" FreeNAS 11.1-u4, run the wizard to create a BE with a colon in it, upgraded to FreeNAS 11.1-U5, and then rolled back to the wizard BE. that was successful.

I upgraded to FreeNAS 11.2Internal14, ran the wizard to create s BE with colons, cloned the upgraded Internal and rolled it forward to the clone. I rolled to and from the one with the colon to the Intenal14 with no issues

#20 - 07/03/2018 08:19 AM - Bonnie Follweiler

- Status changed from Ready for Testing to Failed Testing

#21 - 07/03/2018 09:11 AM - Alexander Motin

BEs in FreeNAS have not only real names, but also a nicknames, which I guess may be used for UI renaming, while real BE name with colon persist and boot will probably still fail. Middleware team should probably know it better. That I guess explain the persistence of the problem after rename.

#22 - 07/03/2018 09:14 AM - William Grzybowski

Alexander Motin wrote:

BEs in FreeNAS have not only real names, but also a nicknames, which I guess may be used for UI renaming, while real BE name with colon persist and boot will probably still fail. Middleware team should probably know it better. That I guess explain the persistence of the problem after rename.

In middleware we use the RenameClone method from sefpkg. I dont know what it does under the hood but I believe it indeed only changes the nickname, not dataset name. I suppose there is a reason for that (perhaps because the loader inside each BE will have to be changed to catch up the dataset rename?)

#23 - 07/03/2018 09:29 AM - Kris Moore

Using the beadm command without the -n flag should do a rename of the dataset itself, not the nickname.

```
beadm rename [-n] <origBeName> <newBeName>
```

#24 - 07/03/2018 09:44 AM - Alexander Motin

William Grzybowski wrote:

I suppose there is a reason for that (perhaps because the loader inside each BE will have to be changed to catch up the dataset rename?)

bsdloader unlike GRUB has no config, so it does not care much about rename, it populates the list of BEs for menu dynamically (and I guess I has no idea about nicknames). The only thing that may need to be updated during rename is bootfs pool property. Also I suppose there may be problem to rename current BE, that is possibly why nicknames were introduced.

#25 - 07/03/2018 10:03 AM - William Grzybowski

Alexander Motin wrote:

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That might be another issue then, rename in beadm only changes nickname, and bsdloader uses realname only?

#26 - 07/03/2018 10:06 AM - Alexander Motin

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It seems beadm FreeNAS includes is different from FreeBSD one, which has no concept of nicknames. Not sure that is a big problem, but yes, it is an inconsistency.

#27 - 07/03/2018 10:19 AM - William Grzybowski

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This is literally making rename a no-op for BE selection, not really an inconsistency.

Perhaps we should rename the BEs using the nickname?
Or add support to show nickname in loader? What is best?

#28 - 07/03/2018 10:48 AM - William Grzybowski

<https://github.com/freenas/freenas/pull/1469>

#29 - 07/03/2018 11:10 AM - Alexander Motin

I don't know the whole motivation for the nicknames, guess it was added to overcome limitations of rename, like renaming of current BE (which seems actually possible now with new `-u`` flag), and may be some limitations of used symbols. I'd propose nicknames could be used only when they are needed to not have two different names for BE in cases where it is not needed.

I don't very like idea of adding that to loader, since the nicknames are not even present in FreeBSD's beadm. Guess it may be TrueOS or FreeNAS specific feature.

#30 - 07/03/2018 11:14 AM - Sean Fagan

Yes, that's why they were added. I don't think this is a necessary feature to add.

The ability to do live updates never worked out in practice, since the build was non-reproducible, and so the nicknames were never a necessary feature.

#31 - 07/03/2018 11:44 AM - Kris Moore

I'm perfectly happy having Nicknames get removed. That was a JKH request (If I recall correctly). In 11.2 and later we can revert back to the standard beadm from FreeBSD. We don't even use the nickname version on TrueOS. (I never liked them either)

#32 - 07/03/2018 01:04 PM - William Grzybowski

- Status changed from *Failed Testing* to *Ready for Testing*

#33 - 07/05/2018 10:57 AM - Vladimir Vinogradenko

- Status changed from *Ready for Testing* to *In Progress*

#34 - 07/05/2018 12:37 PM - William Grzybowski

- Status changed from *In Progress* to *Ready for Testing*

#35 - 07/05/2018 01:09 PM - Vladimir Vinogradenko

PR: <https://api.github.com/repos/freenas/freenas/pulls/1478>

#36 - 07/05/2018 01:10 PM - Vladimir Vinogradenko

PR: <https://api.github.com/repos/freenas/freenas/pulls/1478>

#37 - 07/06/2018 09:07 AM - Bonnie Follweiler

- Status changed from *Ready for Testing* to *Passed Testing*

- Needs QA changed from *Yes* to *No*

#39 - 07/06/2018 10:09 AM - Dru Lavigne

- Status changed from *Passed Testing* to *Done*

Files

cant load kernel.jpg	103 KB	06/28/2018	Bonnie Follweiler
Screen Shot 2018-06-28 at 10.53.25 AM.png	78.7 KB	06/28/2018	Bonnie Follweiler
Screen Shot 2018-06-28 at 11.00.30 AM.png	75.9 KB	06/28/2018	Bonnie Follweiler
Screen Shot 2018-06-28 at 11.14.41 AM.png	76.2 KB	06/28/2018	Bonnie Follweiler
kernal again.jpg	94.6 KB	06/28/2018	Bonnie Follweiler
Screen Shot 2018-07-02 at 5.15.40 PM.png	65.7 KB	07/02/2018	Bonnie Follweiler
Screen Shot 2018-07-02 at 5.21.53 PM.png	76.6 KB	07/02/2018	Bonnie Follweiler
Screen Shot 2018-07-02 at 5.32.03 PM.png	95 KB	07/02/2018	Bonnie Follweiler
Screen Shot 2018-07-02 at 5.33.24 PM.png	96.3 KB	07/02/2018	Bonnie Follweiler
can_t load Kernal.jpg	122 KB	07/02/2018	Bonnie Follweiler